IN THE CLAIMS:

The following list of claims replaces all prior listings and versions of claims in this application:

1. (Currently amended) A method of preparing crystalline wafer, comprising:

providing a first composite structure comprising a support substrate and a first epitaxial layer that is in a strained state and is associated with one side of the support substrate;

relaxing the strained state of the first epitaxial layer of the composite structure to an at least partially relaxed state;

creating a region of weakness substantially between the first epitaxial layer and the support substrate;

associating a receiving substrate with the first composite structure with the side of the support that includes the first epitaxial layer; and

obtaining a production wafer and a donor wafer by splitting the first composite structure at ~~a~~ the region of weakness located therein.

2. (Currently amended) The method of claim 1, wherein the strained state of the first epitaxial layer is relaxed by providing dislocations in a dislocation layer ~~within the first composite structure~~ between the first epitaxial layer and the support substrate in a configuration sufficient to relax the first epitaxial layer to a substantially relaxed state, prior to associating the receiving substrate with the structure by bonding to the relaxed first epitaxial layer.

3. (Currently amended) The method of claim 1, wherein the region of weakness is created by implanting atomic species ~~at a second implantation location that is spaced from the first implantation location~~ between the first epitaxial layer and the support substrate.

4-5. (Cancelled)

6. (Original) The method of claim 1, further comprising providing an additional layer on the relaxed first epitaxial layer prior to associating the receiving substrate with the first composite structure, wherein the receiving substrate is bonded to the additional layer.

7. (Original) The method of claim 6, wherein the crystalline wafer is a semiconductor wafer, and the additional layer is a strained silicon layer.

8. (Original) The method of claim 1, further comprising providing an additional layer between the first epitaxial layer and the support substrate prior to associating the receiving substrate with the first composite structure, wherein the receiving substrate is bonded to the relaxed first epitaxial layer.

9. (Original) The method of claim 1, further comprising removing a layer of the production wafer disposed on an opposite side of the first epitaxial layer from the receiving substrate to provide an exposed surface.

10. (Original) The method of claim 9, further comprising providing another layer on the exposed surface of the production wafer.

11. (Original) The method of claim 10, wherein said another layer is grown on the exposed surface.

12. (Original) The method of claim 1, wherein the support substrate comprises silicon.

13. (Original) The method of claim 12, wherein the first epitaxial layer comprises silicon germanium.

14. (Original) The method of claim 1, wherein the first epitaxial layer is relaxed sufficiently to reduce the strain thereof to less than 75% of the strain than in the strained state.

15-18. (Cancelled)

19. (Currently amended) The method of claim ~~16~~ 1, wherein energy is added to the first composite structure to relax the first epitaxial layer.

20-25. (Cancelled)

26. (New) The method of claim 3, wherein the implantation of the atomic species both creates the region of weakness and provides dislocations between the first epitaxial layer and the support substrate for relaxing the strained state of the epitaxial layer.

27. (New) The method of claim 1, wherein the first epitaxial layer is grown in the strained state on the support substrate.